

APPARATUS AND METHOD FOR SYNCHRONIZATION OF MULTIPLE DATA
PATHS AND RECOVERY FROM LOST SYNCHRONIZATION

Abstract of the Disclosure

5 A system and method for transferring data from a source to a destination are
described. Data packets are split into multiple data packet portions and are transferred in
parallel over parallel data streams or pipes to grouping circuitry where they are
recombined into full data packets. Each packet portion is assigned a synchronization
code and a pipe state machine state. The grouping circuitry reads individual packet
10 portions from the parallel streams and analyzes the synchronization codes and the state
machine states to determine if the individual packet portions were generated from the
same packet. If so, they are recombined into a full packet and are forwarded to the
destination. If not, an error is detected. The grouping circuitry automatically realigns the
data streams to recover synchronization without the need for any feedback to the
15 individual streams to correct the error.